Thesis/
Reports
Gabbert,
A.

FINAL

POTABLE WATER SYSTEM SANITARY SURVEY

TUCKER PONDS CAMPGROUND

RIO GRANDE NATIONAL FOREST

Prepared by:

Foothill Engineering Consultants, Inc.

Prepared for:

U.S. Forest Service Department of Agriculture

Region 2

October 2001

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www.fec-llc.com

October 31, 2001

Mr. Terry Armbruster
USDA Forest Service
740 Simms Street
Box 25127
Lakewood, Colorado 80225-0127

RE: Final Potable Water System Sanitary Survey Report
Tucker Ponds Campground
Rio Grande National Forest

Dear Mr. Armbruster:

Enclosed is our final report of the conditions of the water system at the referenced facility, based on a sanitary survey of the facility. The fieldwork for this report was completed on July 24, 2001. This report was prepared by Amanda Gabbert and Tim Rollenhagen and reviewed by Christine Galli LaBerge.

We appreciate the opportunity to work with you and other members of the Forest Service Staff. If you have any questions or need additional information, please call me at (303) 278-0622.

Sincerely,

Christine Galli LaBerge, EI
Project Manager
Foothill Engineering Consultants, Inc.

CGL
00-513

Enclosure

REPORT ON SANITARY/CONDITION SURVEY

of a

DRINKING WATER SYSTEM

(A copy of the Sanitary/Condition Survey, Parts I, II, and III, should be attached to this report.)

Water System Name: **Tucker Ponds Campground**

Forest: **Rio Grande** **District:** **Divide (020904)**

Drinking Water System I.D. Number: **1447.001431** **(Forest Service, or State, or EPA)**

Date of Survey: **07/24/01** **(yy)**

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PART III

A: Site Identification

1. **Forest:** Rio Grande
2. **Water System Name:** Tucker Ponds Campground
3. **Ranger District:** Divide (020904)
4. **Water System Identification Number:** 1447.001431
5. **Date of Survey:** 07/24/01 **(mm,dd,yy)**
6. **Survey Made By:** Amanda Gabbert and Tim Rollenhagen
7. **Date of this Report:** 10/31/01
8. **Report Made By:** Amanda Gabbert, Tim Rollenhagen, and Christine Galli LaBerge

Reviewed By: _____ **Date:** _____
District Ranger

Reviewed By: _____ **Date:** _____
Recreation Staff

Reviewed By: _____ **Date:** _____
Forest Engineer

B: System Description

Tucker Ponds Campground is a seasonal recreation site operated from May to September that is supplied by a transient, non-public (TNP) water system consisting of one handpump. The campground is located approximately 15 miles southwest of South Fork, Colorado just off U.S. Highway 160.

The handpump is located southeast of Campsite #14. The system consists of a handpump with a concrete slab approximately 2 inches above grade connected to a 90-foot-deep, 7-inch diameter well. The top of the well casing extends approximately 5 inches above the top of the concrete slab, and the depths of the well intake intervals are from 30 feet to 40 feet, from 65 feet to 75 feet, and from 85 feet to 90 feet below ground surface. Moss is growing in and around the sanitary seal between the pump and the well casing. The handpump outlet is not threaded or screened and the pump does not have a flange gasket or shroud. The concrete slab surrounding the well is deteriorating, and the handpump does not have a permanent "No Washing/ No Bathing" sign. The bolts on the pump stand are loose and the paint is peeling away from the handpump.

The handpump appears to be in satisfactory condition and there have been no reports of water shortage and no complaints from campers. The water does not exhibit discoloration or silt. Drainage around the well is adequate and the well location is not subject to flooding. There is a vault toilet located approximately 175 feet southwest of and down gradient of the well.

Chemical and physical analyses were performed in 1978. No bacteriological, nitrate/nitrite, or microscopic particulate analysis (MPA) test results are available for this site.

C: Drinking Water System's Deferred and Annual Maintenance Costs Summary Form

C: Water System's Deferred Maintenance Cost Summary Form

Tucker Ponds Campground

Deficiencies	*Corrective Actions*
The deficiencies and potential implications to water quality and system use identified during the survey are:	The associated corrective actions for the system are:
No bacteriological/nitrate/nitrite analysis	Perform bacteriological/nitrate/nitrite analysis and keep results
No flange gasket on handpump	Install a flange gasket
No O& M manual	Develop and keep O&M manual
No disinfection waiver	Apply for disinfection waiver
No record of O&M activities	Create and keep O&M logbook
Well hasn't been evaluated for 100 year flood	Evaluate well for 100 year flood
Missing no washing at handpump sign	Install "No Washing at Handpump" wooden sign
Cracked/Deteriorating concrete slab	Repair concrete slab cracks
Well head is not 18" above natural grade	Extend well casing to 18" above natural grade
Nuts & bolts on stand are not tight	Tighten nuts and bolts
No shroud on handpump	Install shroud
No microscopic particulate analysis (MPA)	Perform MPA and keep results

The total cost to implement the corrective action described above, including a 33% additional charge for the remoteness of the site, is $5,676.00

The Water System's Deferred and Annual Maintenance Cost Summary Form provides a detailed breakdown of this cost along with associated annual maintenance costs for the site. All deferred and annual maintenance costs have been determined using the means costing guide, the R6 water supply and wastewater facilities construction cost data, or the R2 cost estimating guide, and have been approved by the USDA Forest Service.

DRINKING WATER
Deferred Annual Maintenance Costs Summary Form

Forest: Rio Grande System Name: Tucker Ponds Campground
District: Divide (020904) System CN Number: 1447.001431

DEFERRED AND ANNUAL MAINTENANCE TASK KEY:

1. Startup Shutdown	5. Component Replacement	9. Monitoring	13. Consumable Materials
2. Permits & Fees	6. Condition Survey	10. Sampling	14. Waste hauling
3. Operator Training & Certification	7. Sanitary Survey	11. Record Keeping	15. Other Miscellaneous
4. Component Repair	8. System	12. Power/Electrical	

Key to Deferred Maintenance Tasks	Part I, or II Item Numbers	Deficiencies	Corrective Action	Priority	Deferr. Main. Cost			Deferr. Main. Cost + Remote Fact.			Source
					H & S	Res.	Mis.	H & S	Res.	Mis.	
11	I	No O& M manual	Create and keep O&M manual	NC	0.000	0.000	0.057	0.000	0.000	0.076	USDA Forest Service
10	I	No bacteriological/nitrate/nitrite analysis	Perform bacteriological/nitrate/nitrite analysis and keep results	C	0.343	0.000	0.000	0.456	0.000	0.000	USDA Forest Service
2	I	No disinfection waiver	Apply for disinfection waiver	C	0.458	0.000	0.000	0.609	0.000	0.000	USDA Forest Service
11	I	No record of O&M activities	Create and keep O&M logbook	NC	0.000	0.000	0.078	0.000	0.000	0.104	USDA Forest Service
11	IIA1	Well hasn't been evaluated for 100 year flood	Evaluate well for 100 year flood	NC	0.000	0.156	0.000	0.000	0.207	0.000	USDA Forest Service
5	IIB3	Missing no washing at handpump sign	Install "No Washing at Handpump" wooden sign	NC	0.000	0.686	0.000	0.000	0.912	0.000	USDA Forest Service
5	IIB3	No flange gasket on handpump	Install a flange gasket	C	0.057	0.000	0.000	0.076	0.000	0.000	Baker Parts Monitor
10	I	No microscopic particulate analysis (MPA)	Perform MPA and keep results	C	1.716	0.000	0.000	2.282	0.000	0.000	Laboratory
5	IIB3	No shroud on handpump	Install shroud	C	0.515	0.000	0.000	0.685	0.000	0.000	Baker Parts Monitor
4	IIB3	Cracked/ Deteriorating concrete slab	Repair concrete slab cracks	C	0.057	0.000	0.000	0.076	0.000	0.000	RS Means - 03600
4	IIA1	Well head is not 18" above natural grade	Extend well casing to 18" above natural grade	NC	0.000	0.000	0.114	0.000	0.000	0.152	RS Means - 02500
4	IIB3	Nuts & bolts on stand are not tight	Tighten nuts and bolts	NC	0.000	0.000	0.031	0.000	0.000	0.041	RS Means - 01300 and 05050
		Totals			3.146	0.842	0.280	4.184	1.119	0.373	
		Deferred Maintenance Costs (DMC)				4.268					
		Deferred Maintenance Costs (DMC) * 1.33 (Remoteness Factor) = Total DMC (k$)							5.676		

Key to Annual Maintenance Tasks	Parts I, or II Item Numbers	Maintenance Description	Priority	Ann.O&M Costs			Ann.O&M Costs + Remote Fact.			Source
				H & S	Res.	Mis.	H & S	Res.	Mis.	
1	I	Flush well by hand pumping	NC	0	0	0.038	0.000	0.000	0.051	USFS R6 Annual Operating and Maintenance Cost Estimating Guide
1	I	Install Pump Handle when BT test passes	C	0.01	0	0	0.013	0.000	0.000	
1	I	Remove Pump Handle at Shutdown	NC	0.019	0	0	0.025	0.000	0.000	
1	I	Clean concrete pad and sump	NC	0	0.038	0	0.000	0.051	0.000	
4	I	Adjust top packing nut and lub shroud	NC	0	0	0.025	0.000	0.000	0.033	
6	I	Beginning of Season Inspection	NC	0	0	0.019	0.000	0.000	0.025	
6	I	End of Season survey	NC	0	0	0.019	0.000	0.000	0.025	
7	I	Sanitary Survey	NC	0	0	0.3	0.000	0.000	0.399	
8	I	Cleaning and maintenance	NC	0	0	0.15	0.000	0.000	0.200	
10	I	Startup Bacteriological test	C	0.17	0	0	0.226	0.000	0.000	
10	I	Monthly bacteriological test	C	0.17	0	0	0.226	0.000	0.000	
10	I	Nitrate test	C	0.173	0	0	0.230	0.000	0.000	
11	I	INFRA updates	NC	0	0	0.15	0.000	0.000	0.200	
		Totals		0.542	0.038	0.701	0.721	0.051	0.932	
		Annual Operation & Maintenance Costs (AO&MC)			1.281					
		Annual Operation & Maintenance Costs (AO&MC) * 1.33 (Remoteness Factor) = Total AO&MC (k$)						1.704		

D: ATTACHMENTS

1. EXISTING TEST RESULTS AND SYSTEM CONSTRUCTION INFORMATION

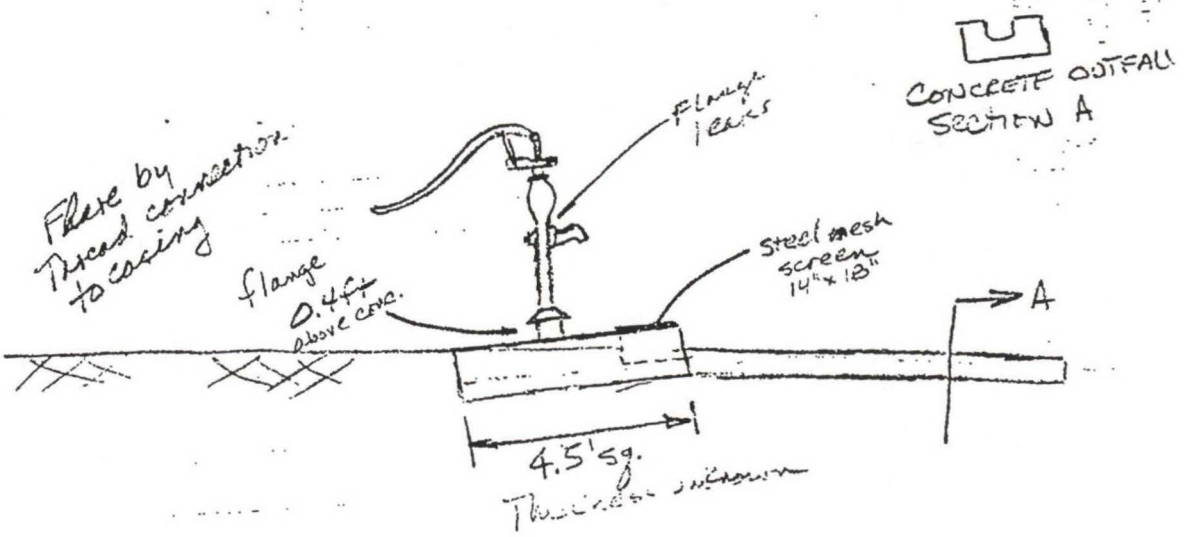
2. MAP AND/OR SITE PLAN

3. PHOTOGRAPHS

4. PARTS I AND II

5. DEBRIEFING INFORMATION: COMPLIANCE PLAN A AND A COPY OF CERTIFIED LETTER

EXISTING TEST RESULTS AND SYSTEM CONSTRUCTION INFORMATION


CONCRETE OUTFALL
SECTION A
Flange by
Thread connection
to casing
flange
0.4ft
above conc.
Flange
leaks
Steel mesh
screen
14" x 18"
A
4.5' sq.

PART III - ENGINEERS ESTIMATE

(Estimated cost to correct noted deficiencies and/or construct improvement. Include all direct on-site costs plus _____ % for engineering, administration, and assessments; enter % for your individual Forest.)

Item Reference	Item Description	Priority*	Estimated Cost
III-C	[illegible]	1	60
III-C	[illegible]	2	85
III-A	[illegible]	1	45
	[illegible]	2	60
	[illegible]	1	75
III-F	[illegible]	2	175
	[illegible]	1	10
	[illegible]	1	150
	[illegible]	1	15
	[illegible]	2	150
	[illegible]	1	50
	[illegible]	2	225

* Priority 1 - Those items that constitute present or potential health hazards or sources of contamination.

Priority 2 - Those items that do not constitute a health hazard or source of contamination but would provide for increased O&M efficiency.

Index No.
IDWD
Use
Registered

DIVISION OF WATER RESOURCES
OFFICE OF THE STATE ENGINEER
GROUND WATER SECTION

Tucker Ponds (

LOG AND HISTORY OF WELL
PERMIT NO. 19774

Driller R. H. Mayfield Lic. No. 303
Owner U.S. Forest Service
Street _____ City Monte Vista
Tenant _____
Use of Water Camp Ground No. _____
On or By _____ Acres _____
(description of site or land)
Date Started Aug 13, 1964
Date Completed Aug 21, 1964
Yield ½ GPM or _____ CFS

WELL DESCRIPTION:

Depth to Water 68-86 ft. Total Depth 100 ft.
(measured from ground surface)
Hole Diameter: from 0 ft. to 100 ft., 7⅝ in.
from _____ ft. to _____ ft., _____ in.
from _____ ft. to _____ ft., _____ in.

TEST DATA:

How Tested _____ Pump or 12 gpm Bailed
Date Tested Aug 20-21, 1964 Length 15 hrs.
Rate ½ GPM Drawn Down 90 ft.

PUMP DATA:

Pump Type Bond Outlet Size 2" in.
Driven by _____ HP _____

CASING RECORD:

Plain Casing

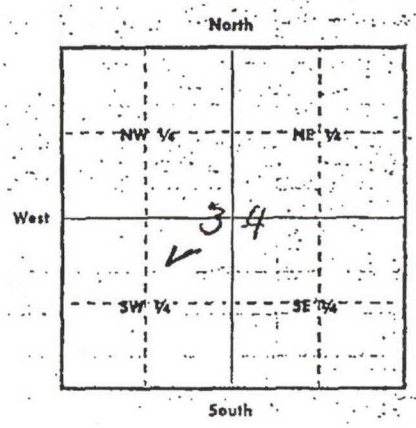
Size 7, Kind iron from 0 ft. to 30 ft.
Size " , Kind " from 40 ft. to 65 ft.
Size _____, Kind _____ from 75 ft. to 85 ft.

Perforated Casing

Size 7", Kind iron from 30 ft. to 40 ft.
Size " , Kind " from 65 ft. to 75 ft.
Size " , Kind " from 85 ft. to 90 ft.

WELL LOCATION

Mineral Coun
NE ¼ of SW ¼ of Sect. 34
Twp. 38N, Rge. 2E, NMP



ABOVE DIAGRAM REPRESENTS ONE FULL SECTION. LOCATE WELL ACCURATELY IN SMALL SQUARE REPRESENTING 40 ACRES.

or

If the above is not applicable fill in:

_____ No. _____ Street

_____ City or Town

or

Lot _____ Block _____

Tucker Ponds Subdivision
(include filing or number)

TO BE MADE OUT IN QUADRUPLICATE:

Original Blue and Duplicate Green Copy must be filed with the State Engineer within 30 days after well is completed. White copy is for the Owner and Yellow copy for the Driller.

FOR WELL LOG USE REVERSE SIDE

WELL LOG

Ground Elevation _____ (if known) How Drilled Cable tool

FROM FEET	TO FEET	TYPE OF MATERIAL	REMARKS (such as Cementing, Packing, Shut off, etc.)	Indicate Water Bearing Formation	Indicate Perforated Casing Location
0	8	Top silt	0'16-11" grout		
8	22	Solid Brown rock			
22	54	Brown Igneous Rock		31	
54	100	Volcanic ash		68/84	

(if more space is required use additional sheet)

WELL DRILLER'S STATEMENT

This well was drilled under my supervision and the above information is true and correct to the best of my knowledge and belief.

Signed R. H. Mayfield

By _____

Dated Sept 1, 1964

ATTACHMENT NO. 1

DAY 1 LABORATORY
(Name of Laboratory)
1175 S. Pennsylvania St.
Denver, Colorado 80210
(Address)

Water Utility: _____
County: _____
Source of Supply: #36
Where Collected: Tucker Ponds Well
Collected by: John Hill

Baseline
Date Sampled: 10/30/78
Date Analyzed: 11/20/78
Chemist: _____
MAIL TO: Rio Grande National Forest
1803 West Highway 160
Monte Vista, CO 81144

CHEMICAL AND PHYSICAL ANALYSIS OF POTABLE WATER

Mandatory Parameters	Mandatory Limits	Results
Turbidity	1 TU	< 1
Arsenic	0.05 mg/l	< 0.01
Barium	1. mg/l	< 0.1
Cadmium	0.010 mg/l	< 0.001
Chromium	0.05 mg/l	< 0.01
Fluoride	2.4 mg/l	< 1
Lead	0.05 mg/l	< 0.01
Mercury	0.002 mg/l	< 0.001
Nitrate as N	10 mg/l	002
Selenium	0.01 mg/l	< 0.01
Silver	0.05 mg/l	< 0.01
Chlorinated Hydrocarbons		
Pesticides		
Endrin	0.0002 mg/l	0.0
Lindane	0.004 mg/l	0.0
Methoxychlor	0.1 mg/l	0.0
Toxaphene	0.005 mg/l	0.0
Herbicides		
2,4 - D	0.1 mg/l	0.0
2,4,5, - TP	0.01 mg/l	0.0
Radioactivity		
Gross Alpha	15 pCi/l	< 1
Gross Beta	50 pCi/l	<1
Radium 226+228	5 pCi/l	< 1
Cations		
Calcium		
Magnesium		
Potassium ✓		1.1
Sodium		
Anions		
Bicarbonate ✓		155
Carbonate		
Chloride		
Fluoride		
Nitrate		
Sulfate		

Non-Mandatory Parameters	Suggested Limits	Results
Color	15 Cobalt Units	< 1
Total Hardness as $CaCO_3$	mg/l	57
Calcium as $CACO_3$		46
Magnesium	125 mg/l	6.0
Sodium	250 mg/l	7.2
Chloride	250 mg/l	5.5
Sulfate	250 mg/l	6.0
Phenolphthalein Alkalinity	mg/l	None
Total Alkalinity	mg/l	97
Dissolved Solids	500 mg/l	112
Specific Conductance	Micromhos	210
Iron	0.3 mg/l	3.0
Manganese	0.05 mg/l	< 0.01
Copper	1.0 mg/l	< 0.01
Zinc	5.0 mg/l	1.71
Molybdenum	mg/l	< 0.1
Ammonia as N	mg/l	0.56
Phosphate as P	mg/l	2.7
Boron	mg/l	< 0.1

5010-104

UNITED STATES GOVERNMENT

Memorandum

File No. 2310

TO: District Ranger, Del Norte

DATE: 9-16-64

FROM: H. LeMar Howard
Installed by

SUBJECT: PLANS
Tucker Ponds C.G.

RECORD OF PUMP INSTALLATIONS

Well No. 1

Depth of Well 102 FT.

Water Depth 100 FT. Measured 9-16-64
(Date)

Pump Model: Dempster 23F or 26F1

Pipe from pump to well cap 2" x 19½"

2" long coupling in well cap

Length of 2" pipe 97 feet

Well Rod 7/16 x — ft. steel 1-1/8x 97 ft. w

Working barrel -- 1-7/8" x 24" (27" gross length)

1¼" nipple — inches long

6" Strainer Male ~~Female~~ threads
(Cross out one)

Total measured length from well cap to tip of strainer. 1

Picnic ground (closed in 1969?)

Water Utility: TUCKER PONDS P.G. Date Sampled: 7/23/72

Co( ): RIO GRANDE N.F. Date Analyzed:

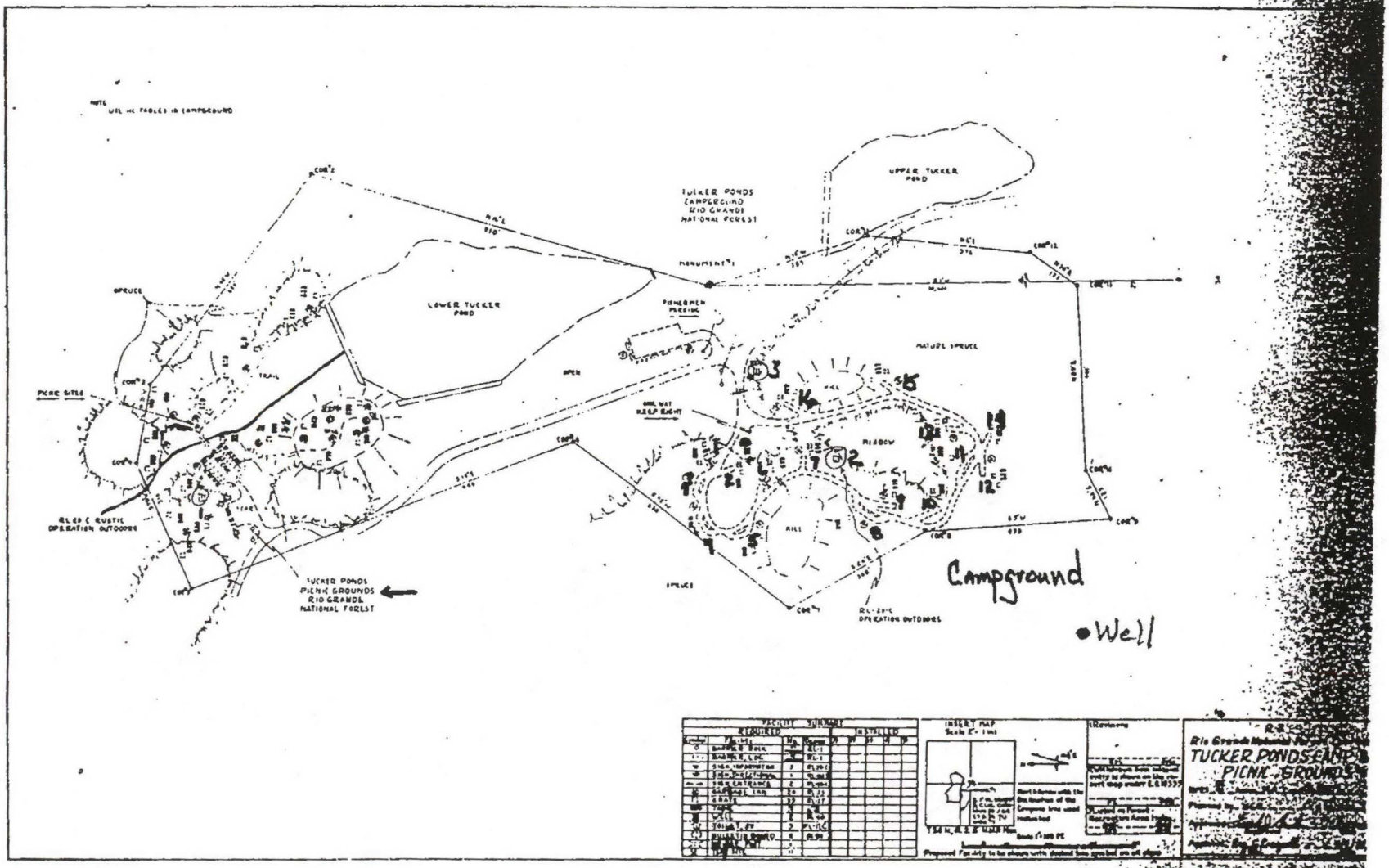
Source of Supply: WELL Chemist:

Where Collected: HAND PUMP MAIL TO: Wm. Opfer, USDA Forest Servi
11177 W. 8th Ave., Box 25127
Collected By: Lakewood, Colorado 80225

Mandatory Parameters	Mandatory Limits	Results	Non-Mandatory Parameters	Suggested Limits	Results
Turbidity	1.0 TU	141.0	Color	15 Cobalt Units	
Arsenic	0.05 mg/l		Total Hardness as $CaCO_3$		230
Bari m	1. mg/l		Calcium as $CaCO_3$		170
Cadmium	0.010 mg/l		Magnesium	125 mg/l	60
Chromium	0.05 mg/l	0.06	Sodium		
Fluoride	2.4 mg/l	0.50	Chloride	250 mg/l	3
Lead	0.05 mg/l		Sulfate	250 mg/l	
Me ury	0.002 mg/l		Phenolphthalein Alkalinity		
Nitrate as N	10 mg/l	9.0	Total Alkalinity		250
Selenium	0.01 mg/l		Dissolved Solids	500 mg/l	
Silver	0.05 mg/l		Specific Conductance	Micromhos	
Chlorinated Hydrocarbons Pesticides					
Endrin	0.0002 mg/l		Iron 7/8/71 <0.01	0.3 mg/l	0.11
Lindane	0.004 mg/l				
Methoxychlor	0.1 mg/l		Manganese (7/8/71 - 3.69 mg/l)	0.05 mg/l	1.80
Toxaphene	0.005 mg/l				
Herbicides			Copper (7/8/71 - <0.01)	1.0 mg/l	151
2,4 - D	0.1 mg/l		Zinc	5.0 mg/l	
2,4,5 - TP	0.01 mg/l				
Radioactivity			Molybdenum		
Gross Alpha	pCi/l				
Gross Beta	pCi/l		Ammonia as N		
Radium 226	pCi/l		Phosphate as P		1.61
Strontium 90	pCi/l		Boron		
(ritium	pCi/l		pH		6.7

READ OVER

These results are identical to the results reported in Aug. 1967 for the Tucker Ponds Picnic Area which was supposed to be closed at that time. It is highly unlikely that these test data came from a new sample in 1972.


TUCKER PONDS
CAMPGROUND
RIO GRANDE
NATIONAL FOREST
UPPER TUCKER
POND
LOWER TUCKER
POND
PICNIC SITE
SPRUCE
MATURE SPRUCE
MEADOW
TUCKER PONDS
PICNIC GROUNDS
RIO GRANDE
NATIONAL FOREST
Campground
•Well

MAP AND/OR SITE PLAN

SYMBOLS FOR FIELD SKETCHES

SOURCES

⊕ SUB	Indicates a well source with a submersible pump
⊕ HP	Indicates a well source with a handpump
⊕ SPR	Indicates a spring source
⊕ SUR	Indicates a surface source
⊕ MUN	Indicates a municipal source

PUMPS

× SUB	Indicates a submersible pump
× SUP	Indicates a supply pump

TREATMENT

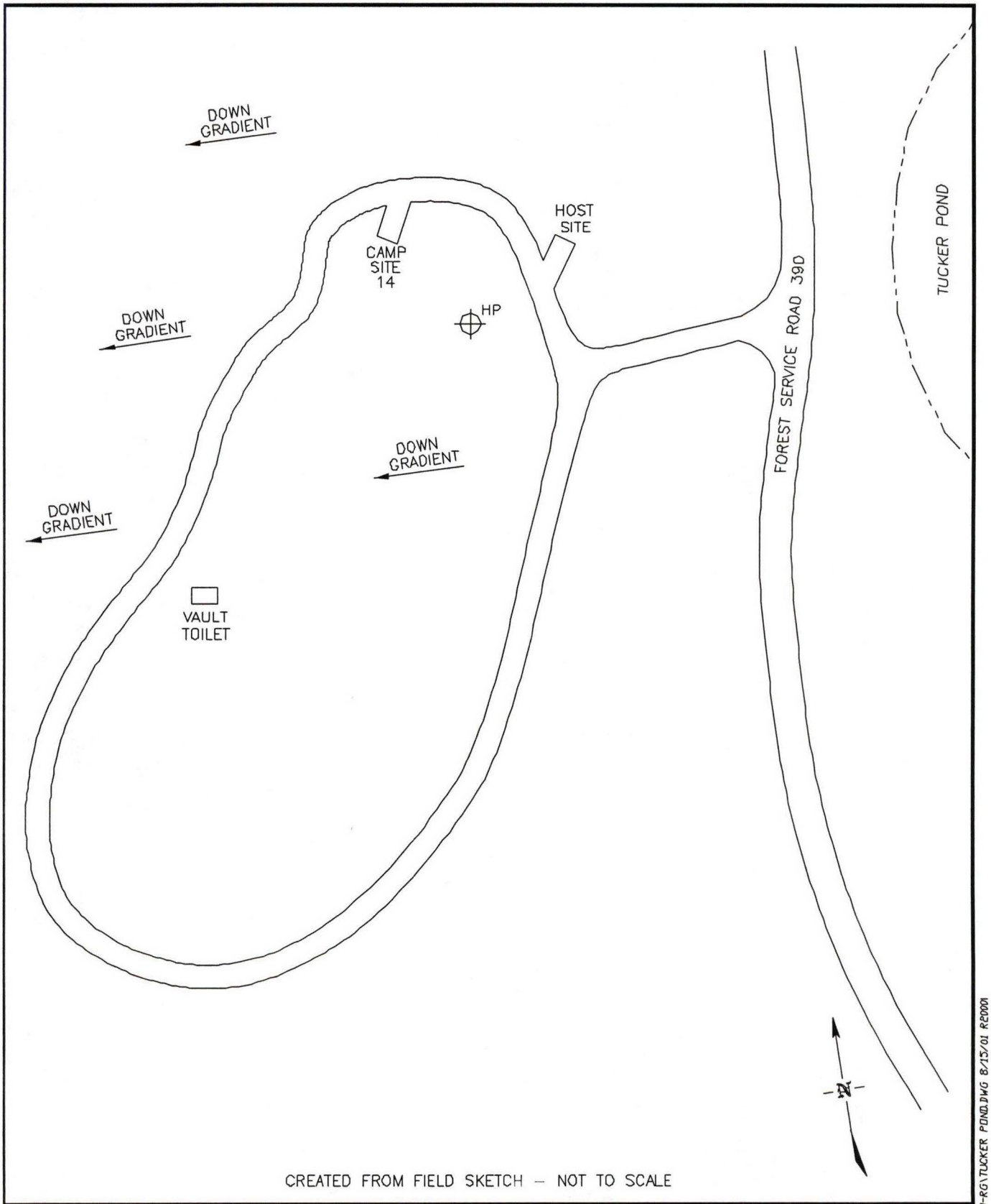
✚ CL	Indicates a chlorine treatment system
✚ ID	Indicates an iodine treatment system
✚ OZ	Indicates an ozone treatment system
✚ FIL	Indicates a filtration system

STORAGE

■ HYD	Indicates a hydropneumatic storage tank
■ ELEV	Indicates an elevated storage tank
■ BG	Indicates a below ground storage tank
■ OTHER	Indicates another type of storage tank

DISTRIBUTION AND POINT OF USE

△ 1	Indicates drain number 1, 2, 3, 4, etc.
Ⓗ 1	Indicates point of use number 1, 2, 3, 4, etc.
———	Indicates verified distribution line
.....	Indicates estimated distribution line



CREATED FROM FIELD SKETCH – NOT TO SCALE

FOOTHILL ENGINEERING CONSULTANTS, INC.

TUCKER POND CAMPGROUND
DRINKING WATER
RIO GRANDE NATIONAL FOREST
SURVEY DATE: 07/24/01
U.S.D.A. FOREST SERVICE

DRAWN BY: MAT

DATE: 08-15-01

L:\2000\00-136\SJ-RG\TUCKER POND.DWG 8/15/01 R2000I

PHOTOGRAPHS

Photograph Number 1: Handpump located southeast of Campsite #14.

Photograph Number 2: Well casing and cracked sanitary seal. Note: casing is not 12 inches above natural grade, and moss is growing around sanitary seal.

Picture Number 3: Cracked drainage trough. Note: crack is located between drainage trough and concrete slab.

Photograph Number 4: Eroding concrete slab.

Photograph Number 5: Eroding concrete slab with growing moss. Note: tree roots growing beneath concrete slab.

PARTS I AND II

PART I
Office Data for Sanitary/Condition Survey

Drinking Water System

Water System Name:	Tucker_Pond_CG_1447_001431		
Forest	Rio Grande		
District:	Divide		
County:	Mineral	Date Surveyed:	7/24/2001
System CN:	1447.001431		
Additional ID #1:	353800	Type:	Forest Service
Additional ID #2:		Type:	
Real Property Numbe			

PART I - Office Data

System CN: 1447.001431

A. Design and Construction Records

1. Engineering Report:	Yes	When: 09/77	(mm/yy)
2. Design criteria:	Unknown		
3. Construction drawings and specifications:	Unknown		
4. "As-built" drawings:	Unknown		
5. Sketch:	Yes		
6. Is there a site plan:	Unknown		
7. Final construction report:	Unknown		
8. Type of site served:	Recreation		
9. When constructed: (mm/yy)			

10. Modifications since construction:

Remarks:

PART I - Office Data

System CN: 1447.001431

B. Water System Classification

Is the water system in use: Unknown

Enter Number Only or Unknow

1. Maximum number of persons using system per day:
2. How many days per year:
3. Use period: (mm/dd) to
4. What class of drinking water system is this from 6. Unknown
5. Is the class of system in No 4 the same as what the (State or EPA) have on file: Unknown
6. Class Definitions:

A. Public (At least 25 people, at least 60 days per year, or 15 service connections.)
   1. Community (C) - Serves a residential population on a year-round basis.
   2. Transient, Non-Community (TNC) - Does not serve a residential population. (Campgrounds)
   3. Non-Tranisent, Non-Community (NTNC) - Does not serve a residential population but does serve at least 25 of the same people over 180 days per year on a regular basis. (School, Office)

B. Non-Public
   1. Transient (TNP) - Does not serve more than 25 persons for less than 180 days. (Small picnic and campgrounds)
   2. Non-Transient (NTNP) - Serves less than 25 year-round residents or serving less than 25 persons more than 180 days per year. (Small work stations and work centers)

7. Remarks:

PART I - Office Data

System CN: 1447.001431

F. Operation and Maintenance

1. Is there a Plant Certified Operator: Unknown

Name:

License Number:

Class:

2. Is there a Certified Distribution System Operator: Unknown

Name:

License Number:

Class:

3. Operated By: Unknown

PART I - Office Data

System CN: 1447.001431

G. Use Records

1. Water shortage experienced: Unknown

   Explain:

2. Water meter readings available: Unknown

3. Electrical meter readings available: Unknown

4. Water meter reading worksheet:

5. Electrical meter reading worksheet:

6. Remarks:

PART I - Office Data

System CN: 1447.001431

H. Records

1. Operation and Maintenance:
   - a. Scheduled operation and maintenance adequate: Unknown
   - b. Preventative maintenance: Unknown
   - c. O and M records adequate: Unknown
   - d. O and M manual available: Unknown
   - e. Is there a O and M log book: Unknown
   - f. Maintenance responsibilities clearly defined: Unknown
   - g. Is there a site-sampling plan: Unknown
   - h. Is there a cross-connection control plan: Unknown

   Improvements needed:

2. Sanitary Surveys:
   - a. Reason for Sanitary / Condition Survey: Unknown
   - b. Previous Sanitary Surveys

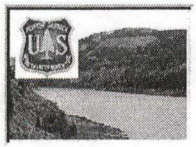
3. Water Rights:
   - a. Are there water rights:
   - b. Water rights name:
   - c. State File No:
   - d. Reserved water rights claimed for administration site:

4. Watershed:
   - a. Watershed name:
   - b. Watershed code:

5. Record Retention - Are the following records being retained:

a. Sanitary/Condition Survey	10 Years:	
b. Bacteriological Analysis	5 Years:	
c. Chemical Analysis	10 Years:	
d. Physical Analysis	10 Years:	
e. Turbidity Results:	10 Years:	
f. Variances or Exemptions	5 Years:	
g. Violations	3 Years:	

Remarks:



PART II
Field Data for Sanitary/Condition Survey
Region - 02

Drinking Water System

Forest	Rio Grande	Code:	09
Water System Name:	TUCKER PONDS		
District:	04		
County:		Date Surveyed:	7/24/2001
Surveyed By:	Amanda Gabbert, Tim Rollenhagen		
Accompanied By:	No USFS Escort was Available		

System CN:	1447.001431		
Additional ID #1:		Type:	
Additional ID #2:		Type:	
Real Property Number:			

Part II - Field Data

IIA. Source
1. Well
2. Spring
3. Surface
4. Municipal

IIB. Pumps
1. Well
2. Supply
3. HandPump

IIC. Treatment System

IID. Storage System

IIE. Distribution System

IIF. Points of Use

IIG. Electrical System

PART II - Field Data

System CN: 1447.001431

A. Source - Well

1. Well

a. Well Permit Number: 19774

b. Well Log: yes Year Drilled: 1964

c. Location: Tucker Ponds CG

Latitude: Unknown Longitude: Unknown

Section: NE,SW 34 Township: 38N Range: 2E

d. Type: Drilled

e. Casing Diameter: 7 Material: Steel Wall Thickness: unknown

f. Depth Ground surface to bottom of well: 100'

Ground surface to bottom of casing: 85'

Ground surface to first draw: 68'-86'

g. Capacity: (gpm) 1/2 at unknown feet drawdown:

h. Type of sanitary seal: Bentonite

i. Subject to flooding: No

j. Has the well been evaluated for a 100 year flood?: Unknown

k. Is the casing 12 inches above the natural grade?: Yes

l. Is there a Concrete slab around the well casing?: Yes

m. Well Screen Well Screen Material: Unknown

n. Sanitary Cover Type: handpump Vented: Not Applicable

o. Pitless_Adapter: Not Applicable

p. Is the well located near subsurface wastewater disposal field, septic tank, vault toilet, stream, marsh, bog, or ditch?: Yes

Well Contamination Description	Distance
road	50 feet
vault toilet	175 feet
Lower Tucker Pond	600 feet

Possible Sources of Contamination in Watershed (Pesticide Usage, Logging, Spills, Grazing):

N/A

Improvements needed:	None
Condition:	Good
Appraisal:	Maintain
Remarks:	area around well & slab is eroding

B. Pumps - Handpump

System CN: 1447.001431

a. Drainage:

1. Drain pipe or trough: Yes Clean: Yes
2. Excess water drains away from slab area: Yes
3. Surface water drains away from slab area: Yes

b. Slab:

1. Slab is present: Yes 2. Open cracks in slab: No
3. Rodents burrowing under slab: No 4. Open gap between well casing and slab: No

c. Pump Stand:

1. Nuts and bolts on stand are tight: No
2. Pump secured to concrete slab or casing: Yes

d. Packing Nut and Packing (Stuffing Box):

1. Is there packing: Yes
2. Packing nut tight (tightened enough so there is no side movement): Yes
3. Is packing in good condition: Yes

e. Upper Piston Guide:

1. Is there more than 1/8" play between guide and rod in the direction of the pump handle: Yes

f. Pump Flanges;

1. Check for presence of flange gasket. Can usually tell by gap between flanges and probing with a knife: No
2. Is gasket in good condition? No cracks, etc: Not Applicable

g. Is pump located near a stream, lake, marsh, bog, septic system, or toilet, etc.: Yes

h. Bubble reservior clean: Yes

i. If pump outlet pipe threaded, is there an anti-siphon device used: Not Applicable

j. Is a shroud installed on the pump: No k. Year of installation: 1964

l. Is a sign present indicating no washing at the handpump: No

Improvements needed: install sign, shroud, gasket, tighten bolts,repaint

Condition: Satisfactory

Appraisal: Repair

Remarks: paint peeling bad, area around well and casing eroding away

DEBRIEFING INFORMATION: COMPLIANCE PLAN A AND A COPY OF CERTIFIED LETTER

No Compliance Plan A or Certified Letter was issued at this site.